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The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

DIRECTOR OF LIVESTOCK DISEASE CONTROL

FOR THE

Year ending November 30, 1936

Publication of this Document Approved by the Commission on Administration and Finance
700. 1-'37. Order 821.

The Commonwealth of Massachusetts

DEPARTMENT OF AGRICULTURE

DIVISION OF LIVESTOCK DISEASE CONTROL

To the Commissioner of Agriculture:

The report of the Division of Livestock Disease Control for the year ending November 30, 1936, is presented herewith.

The work in the prevention, suppression and extirpation of contagious diseases of domestic animals has been conducted along the same general lines as have been followed in previous years. No serious outbreak of any of the many diseases of a contagious nature to which domestic animals are subject occurred during the year. The decrease in the percentage of reactors in connection with tuberculin testing for bovine tuberculosis and the greatly reduced number of reported cases of rabies in dogs and other animals are worthy of attention.

On September 18, 1936, Charles H. Paquin, V. S., of Worcester retired in accordance with the provisions of Chapter 32, General Laws. With the rating of Veterinary Health Officer for this Division since the year 1927, he had been in the employ of the Commonwealth since the year 1900 and was for many years in general charge of the work of the Division in the Worcester area. His courteous manner and kindly nature won for him many friends and his long acquaintance with the livestock owners in his district and his willingness at all times to comply with the many demands for his advice and service made him an invaluable member of our force.

BOVINE TUBERCULOSIS

On November 30, 1936, Massachusetts completed its first full year as a Modified Accredited Tuberculosis-Free Area with what may be regarded as creditable results, as shown by tables accompanying this report.

Under the rules and regulations pertaining to the tuberculin testing of cattle which, by approval of the Governor and Council, have the effect of law, an owner of cattle or his representative "shall submit his entire herd . . . for inspection and a tuberculosis test at such times . . . as may be considered necessary by the director." With this authority, it has been considered advisable and necessary to require that tests be arranged for and applied so that all cattle in the Commonwealth shall be tuberculin tested at least once each year. Accordingly, following the plan adopted soon after testing was started under the accredited herd plan, it is required that retests be applied approximately every sixty days in herds in which one or more reactors are found; every six months in herds where no reactors are found; and on a yearly basis in herds which have passed three or more consecutive clean tests.

The increase in the number of herds that have passed from the six-months retest rating to the yearly retest status has resulted in a steady decline in the number of tests applied; i.e., 26,790 herd tests this year as compared with 32,267 herd tests in the previous year; and 243,923 individual animal tests in 1936 as compared with 262,858 in 1935. (See Table 1.)

Of especial interest is the fact that, although the number of herds recorded as under test on November 30, 1936, (24,298) is less than the number in 1935 (24,974), the cattle population (209,944) is greater by 3,381 head. (See Table 3.) A plausible explanation of the reduced number of herds may be that the higher cost of feed, the increasing demand for pasteurized milk and the more drastic regulations of both State and local boards of health make it unprofitable for small herd owners to continue in business. The increase in the number of cattle is not so easily explained, but may be due to the bringing back to normal size of many herds which were previously depleted through loss by reactors to the tuberculin test. It may also be that more cattle are now raised on Massachusetts farms, not only to supply the demand for replacements, but to meet the increased demand of out-of-State buyers.

With the majority of herds now qualified as having passed three or more tests without reactors, the value of the rating as an accredited herd has lost the significance once attached to such a classification and, accordingly, the issuing of accredited herd certificates by the Federal Bureau and of re-accreditation "stickers" by this Division has been discontinued except upon special request of the owner of the herd qualified for so-called accreditation or re-accreditation.

Although a number of what are commonly termed "breaks" have occurred during the year,—i.e., a high percentage of reactors in herds which have been "clean" for a considerable period,—the number of reactors during the year has decreased markedly,—1,423 this year as compared with 2,524 last year, or .58% in 1936 as compared with .96% in 1935.

Also, although the percentage of reactors (.58%) is slightly in excess of the percentage stipulated in the regulations governing modified accredited areas (less than .5%) (see Table 1), the number of reactors to the last test to all herds in the State prior to November 30, 1936, (260, or .12%) (see Table 3) is below the .5% provision and considerably less than the number recorded in 1935,—namely, 389, or .18%.

With the decrease in the number of reactors, there has been a decided increase in the number of "no lesion" cases found on post mortem examination,—336 out of 1,423, or 23%. On more careful examination than it is possible to make on reactors slaughtered for food purposes this high percentage undoubtedly would be reduced. At the same time it may reasonably be assumed that the nearer we come to complete eradication the more frequently will such "no lesion" cases occur.

TABLE 1: TUBERCULIN TESTS BY MONTHS — YEAR 1936

	First Test			Second Test			Third or More			Accredited			Total Tests		
	Herds	Head	Reactors	Herds	Head	Reactors	Herds	Head	Reactors	Herds	Head	Reactors	Herds	Head	Reactors
1935															
December	112	507	10	144	447	10	1,552	10,367	146	1,052	15,076	35	2,860	26,397	201
1936															
January	127	447	5	89	253	2	1,039	8,785	87	883	12,654	34	2,138	22,139	128
February	85	212	2	54	231	—	808	5,694	137	797	12,237	26	1,744	18,374	165
March	105	265	4	98	327	2	1,101	7,938	74	897	11,488	21	2,201	20,018	101
April	77	277	1	98	505	3	1,350	10,425	129	1,525	22,876	59	3,050	34,083	192
May	127	306	4	74	266	1	1,103	6,241	25	1,233	16,272	64	2,537	23,085	94
June	89	383	3	117	413	—	1,101	6,596	41	866	8,942	28	2,173	16,334	72
July	113	395	3	94	267	—	1,176	6,558	99	786	7,800	24	2,169	15,020	126
August	62	222	4	137	317	—	1,113	5,481	34	663	6,646	16	1,975	12,666	54
September	82	283	—	67	183	—	908	6,131	26	577	7,034	30	1,634	13,631	56
October	55	217	1	102	489	—	1,062	6,305	45	1,023	11,510	37	2,242	18,521	83
November	70	417	2	78	367	—	799	7,175	83	1,120	15,696	66	2,067	23,655	151
Total	1,104	3,931	39	1,152	4,065	18	13,112	87,696	926	11,422	148,231	440	26,790	243,923	1,423

Purebreds: 28,886 — 118 reacted

Grades: 215,037 — 1,305 reacted

TABLE 2: TUBERCULIN TESTS BY COUNTIES — YEAR 1936

Counties	First Test			Second Test			Third or More			Accredited			Total Tests		
	Herds	Head	Reactors	Herds	Head	Reactors	Herds	Head	Reactors	Herds	Head	Reactors	Herds	Head	Reactors
Barnstable	34	73	—	33	106	—	318	701	5	237	1,195	4	622	2,075	9
Berkshire	143	906	2	94	723	1	863	7,163	40	1,545	22,832	76	2,645	31,624	119
Bristol	128	450	6	127	415	6	2,005	13,050	130	805	10,228	40	3,065	24,143	182
Dukes	8	13	—	6	9	—	87	354	1	38	297	—	139	673	1
Essex	80	257	5	98	260	—	956	8,392	206	742	9,016	26	1,876	17,925	237
Franklin	48	107	1	48	174	—	640	3,406	38	1,350	17,145	8	2,086	20,832	47
Hampden	97	354	3	121	343	1	1,169	6,118	65	911	10,851	16	2,298	17,566	85
Hampshire	66	245	—	85	274	1	1,067	6,752	79	1,124	13,913	20	2,342	21,184	100
Middlesex	141	416	8	154	507	8	1,555	11,365	72	1,133	15,105	39	2,983	27,393	127
Nantucket	6	10	—	4	9	—	32	384	—	5	78	—	47	481	—
Norfolk	80	224	2	78	233	1	702	5,067	76	421	6,107	45	1,281	11,631	124
Plymouth	79	176	2	79	227	—	1,186	6,571	38	533	5,753	31	1,877	12,727	71
Suffolk	1	4	—	2	9	—	17	159	1	5	58	—	25	230	1
Worcester	193	696	10	223	776	—	2,515	18,314	175	2,573	35,653	135	5,504	55,439	320
Total	1,104	3,931	39	1,152	4,065	18	13,112	87,696	926	11,422	148,231	440	26,790	243,923	1,423

TABLE 3: COUNTY POPULATION AND INFECTION, AS OF NOVEMBER 30

Counties	1935					1936				
	Tests		Reactors			Tests		Reactors		
	Herds	Head	Herds	Head	Reactors	Herds	Head	Herds	Head	Reactors
Barnstable	621	2,109	3	24	3	617	1,999	—	—	—
Berkshire	2,251	25,921	10	341	20	2,243	26,461	22	430	39
Bristol	2,734	19,009	26	286	38	2,675	19,817	13	246	15
Dukes	155	777	—	—	—	147	707	1	2	1
Essex	1,703	13,289	17	765	28	1,643	13,869	9	722	29
Franklin	2,197	20,875	4	51	4	2,136	20,573	2	63	25
Hampden	2,054	14,684	13	247	40	1,998	14,866	4	140	6
Hampshire	2,281	19,186	19	348	24	2,221	19,585	6	220	9
Middlesex	2,690	22,110	41	789	91	2,656	22,509	10	299	17
Nantucket	45	447	1	1	1	47	481	—	—	—
Norfolk	1,131	8,866	8	224	27	1,105	8,951	1	33	20
Plymouth	1,785	10,126	15	343	27	1,673	10,355	3	143	5
Suffolk	21	181	2	17	2	20	189	—	—	—
Worcester	5,306	48,983	43	813	84	5,117	49,582	34	786	94
Total	24,974	206,563	202	4,249	389	24,298	209,944	105	3,084	260

Tuberculin testing.

Tuberculin testing is conducted cooperatively with the United States Department of Agriculture, Bureau of Animal Industry, under the same general agreement as has been in operation since the work of eradication under the accredited herd plan was accepted and adopted by the Commonwealth in the year 1922. The field work is done by veterinarians employed or authorized by the Massachusetts Division of Livestock Disease Control and by veterinarians in the employ of the Federal Government.

The following tabulation is a record of the work for the year:

	Herds	*Head*	*Reactors*	*No lesions*
Veterinarians paid by the State on an annual salary basis	6,910	61,894	371	108
Veterinarians paid by the State on a per diem basis	13,780	129,543	578	136
Veterinarians paid by the owners	46	1,140	1	—
Veterinarians paid by the Federal Government	6,054	51,346	472	92
	26,790	243,923	1,422	336

Appraisals, Salvage and Indemnities

For the purpose of showing more clearly the data pertaining to appraisals, salvage and indemnities, the following tables are submitted, by which the trend of values is shown month by month.

Appraisals: (See Table 4: page 7).

As regards appraisals, it will be noted that the average for the year, $99.20 for all cattle, is much higher than for the year 1935, namely, $84.57.

Salvage: (See Table 5: page 7).

Referring to the table of salvages, attention is called to the higher average price brought by purebred reactors each month in the year as compared with the price of grade animals. The average salvage value for all cattle was $35.16, as compared with $20.62 in 1935.

Indemnity: (See Table 6: page 8).

In addition to the indemnity paid by the Commonwealth to the owners of reactor cattle additional compensation averaging $20.25 per animal was received by them from the Federal government and so, by adding together the awards of both State and Federal governments and the average salvage, the average total amount received by owners is shown,—i.e., $84.95 for grade animals and $119.49 for registered purebred animals. While this may not appear high it must be borne in mind that these figures are the average totals and include cattle (cows, bulls, calves) of different ages, in varying conditions of health and, referring to cows, in all stages of lactation (dry, springers, new milch, etc.).

Cattle Reported as Showing Physical Symptoms of Tuberculosis

In the year 1892 the General Court of the Commonwealth enacted laws by which bovine tuberculosis was recognized as a contagious disease of domestic animals and provided for the quarantine of, condemnation of and payment for cattle which on physical examination are declared affected with tuberculosis. The year 1936 is the first year since that date, 1892, in which there were no condemnations under the provisions of that law or amendments thereto.

TABLE 4: APPRAISALS

	Purebreds			Grades			Total		
	Head	Amount	Average	Head	Amount	Average	Head	Amount	Average
1935									
December	8	$1,170.00	$146.25	192	$16,194.50	$84.35	200	$17,364.50	$86.82
1936									
January	8	1,487.50	185.94	119	10,809.50	90.84	127	12,297.00	96.51
February	11	1,495.00	135.91	153	15,637.00	102.20	164	17,132.00	104.46
March	12	1,595.00	132.92	88	8,122.50	92.30	100	9,717.50	97.18
April	9	1,440.00	160.00	183	17,380.50	94.98	192	18,820.50	98.02
May	6	995.00	165.83	88	8,220.00	93.40	94	9,215.00	98.03
June	3	425.00	147.67	69	7,052.50	102.21	72	7,477.50	103.85
July	7	910.00	130.00	119	11,615.00	97.61	126	12,525.00	99.41
August	18	2,790.00	155.00	36	3,400.00	94.44	54	6,190.00	114.65
September	5	875.00	175.00	50	4,640.00	92.80	55	5,515.00	100.23
October	13	1,895.00	145.77	69	6,320.00	91.60	82	8,215.00	100.18
November	15	2,905.00	193.63	135	13,095.00	97.00	150	16,000.00	106.67
Total	115	$17,982.50	$156.37	1,301	$122,486.50	$94.14	1,416	$140,469.00	$99.20

TABLE 5: SALVAGE

	Purebreds			Grades			Total		
	Head	Amount	Average	Head	Amount	Average	Head	Amount	Average
1935									
December	8	$370.75	$46.34	191	$6,553.68	$34.31	199	$6,924.43	$34.80
1936									
January	8	378.00	47.25	119	4,238.34	35.61	127	4,616.34	36.35
February	11	468.67	42.61	153	5,967.88	39.01	164	6,436.55	39.25
March	12	530.77	44.23	87	3,208.39	36.88	99	3,739.16	37.57
April	9	388.50	43.17	177	7,116.89	40.21	186	7,505.39	40.35
May	6	256.45	42.74	88	2,790.35	31.70	94	3,046.80	32.41
June	3	125.50	41.83	69	2,405.91	34.87	72	2,531.41	35.16
July	7	282.95	40.42	117	4,233.05	36.18	124	4,516.00	36.42
August	18	610.63	33.92	36	956.81	26.58	54	1,567.44	29.03
September	5	217.82	43.56	50	1,378.85	27.58	55	1,596.67	29.03
October	13	406.02	31.23	66	1,750.67	26.52	79	2,156.69	27.30
November	15	708.35	47.22	132	3,880.09	29.39	147	4,588.44	31.21
Total	115	$4,744.41	$41.34	1,285	$44,480.91	$34.61	1,400	$49,225.32	$35.16

TABLE 6: INDEMNITY

	PUREBREDS			GRADES			TOTAL		
	Head	Amount	Average	Head	Amount	Average	Head	Amount	Average
1935									
December	8	$399.63	$49.95	181	$4,695.70	$25.96	189	$5,099.33	$26.98
1936									
January	8	545.75	68.22	112	3,103.87	27.71	120	3,649.62	30.41
February	11	513.18	46.65	153	4,834.18	31.60	164	5,347.36	32.61
March	12	621.11	51.76	87	2,400.87	27.59	99	3,021.98	30.52
April	9	525.75	58.42	177	4,931.19	27.86	186	5,456.94	29.34
May	6	369.28	61.55	87	2,697.85	30.01	93	3,067.13	32.98
June	2	74.75	37.38	65	2,146.38	32.41	67	2,221.13	33.15
July	7	313.53	44.79	115	3,584.31	31.17	122	3,897.84	31.95
August	18	1,084.79	60.26	35	1,219.21	34.83	53	2,304.00	43.47
September	5	326.09	65.22	50	1,625.00	32.50	55	1,951.09	35.48
October	13	745.50	57.35	63	2,109.93	33.49	76	2,855.43	37.57
November	15	1,081.33	72.09	132	4,469.30	33.86	147	5,550.63	37.76
Total	114	$6,600.69	$57.90	1,257	$37,821.79	$30.09	1,371	$44,422.48	$32.40

INTERSTATE MOVEMENT OF CATTLE INTO MASSACHUSETTS

The reduction in the number of reactors to the tuberculin test slaughtered during the years 1935 and 1936 has naturally resulted in a lessened demand for cattle required as replacements. This reduction is reflected in the number of cattle, both State and interstate, that passed through the dairy section of the quarantine station at Brighton (11,703 this year as compared with 12,535 in 1935), and in the number received at points other than the quarantine station (19,003 this year as compared with 21,057 in 1935).

By law (Division Order No. 43), all cattle, whether intended for dairy, breeding, exhibition, pasturing or slaughter purposes, transported into the Commonwealth must actually be accompanied by a written permit from the Division of Livestock Disease Control, unless consigned direct to the quarantine station at Brighton, the premises of the New England Dressed Meat and Wool Company or to slaughtering establishments where federal inspection is maintained. Cattle intended for purposes other than immediate slaughter must originate from premises where tuberculin testing is conducted under State supervision and on which premises there were no reactors at time of last entire herd test and must be accompanied by a certificate of a tuberculin test made within twelve months if from herds with an accredited status or within six months if from a herd with any other status.

Under the provisions of Division Order No. 44, cattle intended for dairy purposes must also be accompanied by an "owners' and shippers' " statement to the effect that said cattle have not aborted nor reacted to a blood test for Bang abortion disease during the twelve-months period immediately prior to shipment.

These regulations pertaining to both tuberculosis and Bang abortion disease have been rigidly enforced as in previous years.

Quarantine Station at Brighton

The following tabulation is a record of the receipts at the dairy section of the quarantine station, indicating the origin and disposition of cattle received:

Origin:	*Released*	*Held for Retest*		
Interstate:	*on Papers*	*Released*	*Reacted*	*Total*
Canada	293	4	1*	298
Maine	5,813	14	—	5,827
New Hampshire	1,869	14	—	1,883
New York	69	—	—	69
Rhode Island	52	—	—	52
Vermont	1,578	31	—	1,609
	9,674	63	1	9,738
Massachusetts	1,960	5	—	1,965
	11,634	68	1	11,703

*No lesions.

Disposition:	*Interstate*	*State*	*Total*
Massachusetts	7,690	1,821	9,511
Maine	7	1	8
New Hampshire	1	—	1
Rhode Island	2,039	143	2,182
Reacted	1*	—	1
	9,738	1,965	11,703

*No lesions.

In addition to the cattle received at the dairy section there were received for purpose of immediate slaughter: 376 tuberculin reactors, 50 Bang's disease reactors, 3 animals affected with mastitis, 3 with mange, and 2 with actinomycosis.

The sales barn has been maintained in a very satisfactory sanitary condition and thoroughly cleaned at regular intervals throughout the year. Six hundred ninety (690) trucks were cleaned and disinfected under direct supervision of an employee of the Division.

Service in the prevention of hemorrhagic septicemia, or shipping fever, has been continued. Three thousand six hundred fifty-two (3,652) head of cattle were given preventive inoculation.

Arrivals at Points Other Than Brighton

The following tabulation is a record of receipts at points outside of the quarantine station at Brighton:

Four thousand thirty-five (4,035) permits were issued in 1936 as compared with 4,252 in 1935. Of this number 189 were for exhibition purposes.

On these permits there were received 19,003 dairy cattle, 804 exhibition cattle and 1,980 cattle for immediate slaughter.

The dairy cattle originated at the following points:

California	2	New York	1,041
Canada	2,489	Ohio	1,561
Connecticut	1,796	Pennsylvania	611
Delaware	3	Rhode Island	870
Iowa	52	South Carolina	1
Maine	849	Tennessee	16
Michigan	260	Vermont	5,666
Minnesota	69	Virginia	1
Missouri	24	Washington	2
New Hampshire	2,865	Wisconsin	795
New Jersey	30		
Total	19,003		

Of this number 18,460 were released on certificates of health furnished by the states of origin; 543 were held, re-tested and released.

The total number of dairy cattle received interstate was 28,741 (9,738 at Brighton; 19,003 at other points).

The following comparative table covering a two-year period gives an analysis of the sections from which cattle intended for restocking purposes were obtained.

	1936	*1935*
Canada	2,787	2,399
6 Mid-Western states	2,761	3,329
5 New England states	21,417	24,212
New York	1,110	585
Pennsylvania	611	1,218
7 Scattered states	55	64
	28,741*	31,807**

* 9,738 Brighton: 19,003 other points.
**10,750 Brighton: 21,057 other points.

From the tabulation it would appear there is an increasing demand among Massachusetts buyers for dairy cattle from New York State and Canada and a corresponding decreasing demand for such cattle from the New England States where for many years they obtained the greater part of their supply.

CATTLE EXPORTS

During 1936, 2,191 head of cattle identified and released at the dairy section of the Brighton quarantine station were transported direct to other states. In addition, 3,049 interstate shipping certificates were issued by the Division covering 6,223 head of Massachusetts cattle for consignment to other states and countries. This number represents an increase of 306 certificates and 682 head of cattle over the record for the corresponding period in 1935.

The following tabulation is a record of cattle exports shipped direct from Massachusetts herds in 1936:

Destination	*Head*	*Destination*	*Head*
Alabama	1	New Hampshire	817
California	10	New Jersey	29
Connecticut	2,229	New York	497
Delaware	2	North Carolina	1
Florida	2	Ohio	27
Georgia	3	Oklahoma	7
Illinois	3	Pennsylvania	29
Indiana	20	Rhode Island	1,919
Kentucky	3	South Carolina	3
Maine	37	Tennessee	2
Maryland	11	Vermont	525
Michigan	5	Virginia	1
Missouri	1	West Virginia	13
Nebraska	1	Wisconsin	7
			6,205
		Canada	16
		Cuba	1
		Ecuador	1
			18

LICENSED CATTLE DEALERS

The twelve-months period just passed has provided an opportunity to observe the successful working of the law (Chapter 426, Acts of 1935), by which certain powers of control are vested in the Division of Livestock Disease Control in connection with the licensing of persons engaged in the business of dealing in bovine animals and the supervision of certain definite phases of the conduct of the business. Intended as a means of assuring buyers of dairy animals of reasonable protection in the purchase of tuberculosis-free cattle, the results obtained have proven without question the value of such legislation.

Under the rules and regulations dealers in dairy cattle are required to maintain premises and buildings suitable for the handling of dairy cattle and to allow on such premises through purchase, repossession, etc., only such cattle as would have the approval of the office of the Division of Livestock Disease Control,—i.e., cattle from premises rated as tuberculosis-free supervised premises. Dealers are required to submit weekly reports of all cattle bought, sold or repossessed. In the enforcement of the rules and regulations frequent inspections are made of the premises maintained by dealers, tuberculin tests are conducted approximately every ninety days and weekly reports are insisted upon and the tag numbers of all cattle purchased and sold are carefully checked.

The need of this type of legislation is revealed by the occasional finding of reactors in dealers' herds and the frequent detection of irregularities in connection with dealers' purchases, such as cattle from premises not maintained under supervision, cattle from herds in which reactors had been found at time of last previous test, cattle which had not been tested within the required period of time, i.e., within one year of date of purchase, etc.

Two hundred seventy-two (272) licenses were issued during the year. Eight (8) licenses were revoked for failure on the part of licensees to submit weekly reports. Three dealers made application for renewal of licenses which had been revoked, furnished information as to previous purchases, etc., paid the five-dollar renewal fee required and were reinstated.

Convictions were obtained against three persons, one each in Chicopee, Methuen and Worcester, for dealing in cattle without a license. In each case a fine was imposed.

BANG BACILLUS DISEASE

Next in importance to bovine tuberculosis, not alone from an economic viewpoint but also in the possible relationship to public health, Bang bacillus disease is now engaging the attention of all persons interested in animal and human health problems.

This disease was originally and is now commonly referred to as contagious abortion, a term which would seem to convey the meaning that animals affected with the disease always abort. In reality the act of abortion is only an irregular symptom of the disease and may or may not take place. Although it is now commonly conceded that abortion in cattle may be caused by various agencies, it has been quite definitely determined that by far the greater number of abortions are traceable to infection caused by the bacillus known as Bang bacillus. While this fact is now universally accepted by those interested in livestock disease control, present opinion is divided concerning the best method of combatting the disease; by eradication, which would necessarily require destruction by slaughter of all affected animals; or by vaccination, with the thought of eventually establishing immunity.

As to diagnosis, it is generally agreed that the disease can now be accurately diagnosed by the use of the agglutination blood test which has been standardized and is proving highly efficient.

Eradication.—The elimination plan now conducted by the United States Bureau of Animal Industry on what may be called a voluntary request basis is a step toward eventual eradication. Under this plan cattle which react must be tagged, branded and slaughtered. If slaughtered, the owner retains the amount received from sale of the animal for beef purposes and, in addition, receives compensation from the federal government in amount not to exceed $25 for a grade animal or $50 for a purebred.

In the twenty-nine-months period from July 1, 1934, to November 30, 1936, the federal department conducted tests in the Commonwealth of Massachusetts in 307 herds containing 9,697 head of cattle six months of age or over. Of these 154 herds, 4,349 head were negative; 153 herds were infected, in which 813 of 5,348 head reacted. On November 30, 1936, there were 103 herds, 3,639 head, under federal supervision.

Vaccination.—Reports from veterinarians and from an increasing number of owners of dairy herds point to favorable results obtained from the use of nonvirulent abortion vaccines in establishing immunity in adult animals in herds where infection exists. While this method of procedure does not tend to eradication, it apparently is proving highly successful from the standpoint of economy.

In connection with this method of combatting Bang abortion disease, the United States Bureau of Animal Industry is conducting so-called "calfhood" vaccination experiments throughout the United States. Calves between the ages of four and eight months vaccinated with the same type of vaccine employed in adult animals are apparently made resistant to possible future infection, do not harbor the infection, do not become spreaders and frequently do not react to the blood test at time they reach breeding age.

The Division of Livestock Disease Control does not arrange for conducting blood tests except to State-owned herds and in connection with undulant fever investigations.

Service by the Division to the public is still limited to the examination of blood samples submitted for that purpose. Vials for obtaining samples and laboratory service are furnished without charge. Samples must be marked for purpose of identification and full information is required as to the identity of each animal from which blood is obtained and as to the name and address of the owner.

Fifteen thousand three hundred ninety-one (15,391) blood samples were examined during the year and 880 were positive to titres of 1-100 or higher. These samples were submitted from 194 herds and 7,042 head of cattle. One hundred twelve (112) of these herds with 4,237 head have now passed at least

one clean test. The degree of infection can not be estimated from these figures as many of the samples were from cattle from which samples had been drawn one, two, three or more times previously. Thirty (30) of the herds containing 1,041 head of cattle six months of age or over, accredited in the year 1935, were re-accredited and 10 new herds containing 535 head were accredited. Three (3) of this total of 40 herds; i.e., the Alfalfa Farm, Topsfield, 68 head; Broadmeadow Farm, Wayland, 74 head; and Myhaven Farm, Weston, 52 head,—all purebred Guernsey herds,—were recently disposed of at dispersal sales, leaving a total of 37 herds, 1,382 head of cattle now accredited.

RABIES

Rabies continues to be one of the major problems with which this Division has to contend. Its occurrence, often somewhat endemic in character, usually fails to arouse any great interest except in localities where the attention of the public is temporarily called to more or less serious injuries or even death caused by bites inflicted by a rabid animal. Even in such cases the resultant scare is all too soon forgotten. In view of the nature of this disease and the fact its spread depends wholly on actual contact, usually through the bite or scratch of an affected animal, it unquestionably would be possible, with the cooperation of dog owners, dog lovers, and persons empowered to enforce laws pertaining to the licensing of dogs, to completely eradicate the disease by the observance of strict quarantine imposed for a period of one year or possibly less, providing such cooperation could be accomplished.

With the exception of two isolated cases, one in Nantucket and one in Attleboro, all positive cases of rabies occurred this year in the counties of Essex (11 towns, 48 cases), Middlesex (18 towns, 49 cases), Suffolk (3 towns, 20 cases) and Worcester (8 towns, 15 cases). The total for 1936 (134 cases in 42 towns) when compared with the record for 1935 (290 cases in 71 towns) shows a reduction of 54%. This is the lowest number recorded since the year 1919. Of the 134 cases 14, or 10%, were dogs the ownership of which could not be determined.

Early in the year, through letters directed to the mayors of all cities and the selectmen of all towns in the portion of the State lying east of the City of Worcester, attention was called to the benefits to be derived from and the advisability of conducting clinics for the inoculation of dogs for prevention of rabies. Although the number of communities holding such clinics (33) was considerably less than that of last year, it is with a feeling of satisfaction that we report so decided a decrease in the number of cases of rabies as referred to above.

In 49 of the towns in which cases were reported in 1935 there were no cases this year. However, there were cases reported this year in 20 additional towns which, added to the 22 towns in which rabies occurred both years, make a total of 42 towns in which rabid animals were found this year. There was no case of human rabies reported.

Ninety-six (96) persons were reported bitten by rabid animals; 94 persons and 20 families were reported exposed. Laboratory examination was made of the brains of 343 animals, of which 107 were positive, 233 negative and 3 questionable.

Rabies

	Showing Symptoms			Contact				Bite Cases				Total
	Positive	Negative	Questionable	Released	Killed or died No symptoms	Killed—positive	Disposal pending	Released	Killed—no examination	Killed—negative	Disposal pending	
Forward, Year 1935	–	–	–	84	–	–	–	89	–	–	–	173
December, 1935	13	3	1	4	–	–	–	333	–	15	–	369
January, 1936	5	7	–	13	–	–	–	386	–	14	–	425
February	14	2	–	12	–	–	–	417	6	16	–	467
March	9	5	–	5	3	–	–	523	4	17	–	566
April	19	1	–	10	1	–	–	618	1	22	–	672
May	16	8	–	5	–	–	–	914	3	20	–	966
June	16	1	2	6	–	–	–	728	4	15	–	772
July	15	4	–	–	1	–	–	1,158	7	30	–	1,215
August	5	3	1	9	–	–	–	800	3	21	–	842
September	4	1	–	4	–	–	–	582	3	9	–	603
October	4	1	1	–	1	–	–	525	7	13	–	552
November	14	2	–	–	–	–	–	386	12	5	–	419
Forward	–	–	–	–	–	–	11	–	–	–	157	168
Total	134	38	5	152	6	–	11	7,459	50	197	157	8,209
The above record refers to the following animals:												
Cats	5	–	–	5	–	–	1	15	1	21	–	48
Cattle	3	–	–	9	–	–	9	–	–	–	–	21
Dogs	126	36	5	138	6	–	1	7,442	49	171	157	8,131
Squirrels	–	2	–	–	–	–	–	–	–	3	–	5
Rats	–	–	–	–	–	–	–	–	–	1	–	1
Rabbits	–	–	–	–	–	–	–	–	–	1	–	1
Monkeys	–	–	–	–	–	–	–	2	–	–	–	2

Total positive cases, 134

1936

RABIES (POSITIVE) BY TOWNS — DOGS

Andover	2	Holden	1	Newton	1	Swampscott	3
Arlington	3	Lawrence	15	New Braintree	1	Tewksbury	2
Attleboro	1	Lynn	11	North Andover	6	Tyngsborough	1
Boston	6	Lunenburg	1	Phillipston	1	Wakefield	1
Boylston	1	Malden	6	Reading	2	Waltham	2
Burlington	1	Marblehead	1	Revere	5	Westborough	1
Chelsea	6	Marlborough	1	Salem	1	Wilmington	2
Danvers	4	Melrose	2	Saugus	2	Winchester	14
Everett	3	Methuen	1	Shrewsbury	1	Woburn	1
Groton	1	Nantucket	1	Somerville	2	Worcester	8
Haverhill	1						

RABIES (POSITIVE) BY TOWNS — MISCELLANEOUS

	Cats	Cattle		Cats	Cattle
Andover	—	1	Westford	1	—
Boston	1	—	Wilmington	—	1
Chelsea	1	1	Woburn	1	—
Wakefield	1	—			

Realizing the tendency on the part of the public to underestimate the need of continued vigilance in order to prevent a recurrence of disease and to encourage the enforcement of the law pertaining to dogs, the following open letter was published in the press.

To the Citizenry of Massachusetts:

In January, 1935, the State was very much alarmed due to the prevalence of rabies in its dog population, as during the preceding eight years 4,330 positive cases of rabies had been reported and 15 human deaths. Here was an average per year of over 542 cases of rabies and the Division of Livestock Disease Control was importuned to take immediate action to free the State of the menace of this dread disease.

The campaign that followed included letters to the press, to the mayors and selectmen of cities and towns east of a line drawn just west of Worcester (the infected territory), several radio talks and other addresses—all to make the citizenry antirabic-innoculation-minded and secure the establishment of antirabic inoculation clinics in the various municipalities. This work secured the establishment of more antirabic inoculation clinics the past two years than the State had ever known.

In 1935 the number of cases of rabies reported was 290. In 1936, to date (and our fiscal year ends the 30th of this month) the cases number but 121, and not one human death. In all probability the number for 1936 will be under 125—just about 23% of the old yearly average.

These results are most gratifying, but the end is not yet. More clinics must be established. The stray dog, the prolific source of the spread of the disease, must be eliminated. If the police will but gather in unlicensed dogs as they are supposed to do, there will be no stray dogs.

Cities and towns holding clinics over a period of years have been entirely freed from rabies.

We earnestly ask that you help us establish a clinic in your town or city. If we can have 50% of the dog population inoculated, we are positive rabies will be controlled.

Charles F. Riordan, Director
Division of Livestock Disease Control

November 12, 1936

HOG CHOLERA

It has long been a recognized fact that in an area such as Massachusetts where hog owners depend principally upon garbage for feeding, the raising of swine cannot be accomplished successfully without the continued use of protective measures to prevent the occurrence of hog cholera and its allied diseases. In the prevention of cholera, protection can be provided only by the establishment of immunity by the use of anti-hog cholera serum and hog cholera virus through the application of so-called simultaneous or double treatment.

Inasmuch as in this treatment it is necessary to use the virus or actual causative agent of the disease, regulatory measures regarding the possession and use of both hog cholera serum and virus have for several years been deemed necessary in order that the possession and use of these products may be properly supervised. Under these regulations, Division Order No. 20, only persons authorized by this Division have the right to possess and use these products.

On premises where hog cholera has at any time existed or on which cholera virus has been used, attempts to raise swine usually result in failure unless the swine have been immunized previously, are given preventive treatment when placed on the premises or are treated at time of weaning.

Associated with and often coexistent with cholera is hemorrhagic septicemia, a disease in which the mortality rate is invariably high and which differs considerably from cholera inasmuch as it is usually acute in character, death occurring within a short time after symptoms first show, whereas cholera is usually of a more chronic type.

During the past year there have been called to the attention of this Division a few outbreaks diagnosed as a mixed infection of hemorrhagic septicemia and paratyphoid. Proper sanitation, dry quarters, etc., are important factors in the prevention and treatment of conditions of this nature and, in fact, are necessary at all times to the successful raising of swine.

Although intended originally to be restricted to hog cholera control, the service of veterinarians employed by the Division in this work is furnished on request and without cost to the owner in the diagnosis and immunization treatment of hog cholera as well as its several allied conditions. Authorization is also given veterinarians employed in private practice to apply treatments for such owners as may prefer to employ them for that purpose. All materials

used in the treatment of these conditions are billed direct to the owner or the authorized veterinarian by the biologic supply concern furnishing same.

During the year 89,151 treatments* for and in the prevention of hog cholera were applied by veterinarians in the employ of the State on 822 premises. In addition, 29,292 treatments were applied on 183 premises by veterinarians engaged in private practice.

In connection with hemorrhagic septicemia and similar conditions there were also applied 30,852 treatments* by State-employed veterinarians and 7,886 treatments by private veterinarians.

**Erratum.* Report for year 1935, P. D. 98, page 13, should read, "79,541 hog cholera treatments" "24,787 hemorrhagic septicemia treatments". In addition to these treatments applied by veterinarians in the State employ there were 26,101 hog cholera treatments and 9,910 hemorrhagic septicemia treatments made by veterinarians in private practice.

MISCELLANEOUS DISEASES

Actinomycosis (commonly called "lump jaw").—Twenty-nine (29) suspected cases in cattle were reported. On investigation 18 were declared diseased, were condemned and eventually slaughtered. Ten (10) were released.

Anthrax.—Reports of anthrax on five premises located in Berkshire County resulted in a positive diagnosis in one cow each on two separate premises, one in the Town of Richmond and the other in the Town of Sheffield. The carcasses were disposed of by burning, the premises were disinfected and preventive inoculation was given to all other cattle on the premises.

Blackleg.—Preventive treatment was applied to 1,608 head of cattle on 154 premises located in 57 towns. This service is rendered without charge upon request of owners of young cattle in districts where pastures infected with the disease are located.

Glanders.—The last case of glanders on record in Massachusetts occurred in the year 1931. This fact would indicate that the disease may now be considered as eradicated. Nine (9) horses considered as possible suspects were reported during the year. On physical examination and blood tests they were all released.

Mange.—This condition was reported in 101 head of cattle on six premises.

Tuberculosis in swine.—This condition is rarely called to the attention of this Division excepting by inspectors of slaughtering. Three (3) cases were so reported during the year.

Laboratory Service

In addition to 15,391 blood samples examined in connection with Bang bacillus disease in cattle, blood samples from 5 horses and 13 goats were also examined for this disease and were found negative.

Specimens were submitted for laboratory examination and diagnosis for actinomycosis, anthrax, diamond skin disease, food poisoning, glanders, hemorrhagic septicemia, contagious laryngotracheitis, new growths and tuberculosis.

ANNUAL INSPECTION OF NEAT CATTLE, SHEEP AND SWINE

In accordance with Chapter 129, section 19 of the General Laws, the annual inspection of neat cattle, sheep and swine and of the premises where kept was ordered on November 15, 1935, to be completed on or before January 1, 1936.

From reports received from the 355 towns and cities in the Commonwealth, inspections were made of 24,077 premises on which were located 207,862 head of cattle, 8,204 sheep and 81,922 head of swine.

Regional meetings of inspectors of animals were held in the month of November at Boston, Greenfield, Pittsfield, Springfield and Worcester for the purpose of giving information and instruction relative to the duties of the inspectors of animals.

FINANCIAL STATEMENT

Appropriation for the salary of the Director, Chapter 304, Acts of 1936		$4,000.00
Expended during the year for the salary of the Director		$4,000.00
Appropriation for personal services of clerks and stenographers, Chapter 304, Acts of 1936		$26,215.00
Expended during the year for personal services of clerks and stenographers	$25,900.39	
Unexpended balance	314.61	
		$26,215.00
Appropriation for services other than personal, including printing the annual report, traveling expenses of the Director, office supplies and equipment and rent, Chapter 304, Acts of 1936	$11,000.00	
Brought forward from 1935 Appropriation	469.72	
Total amount appropriated		$11,469.72
Expended during the year for the above mentioned purposes	$10,225.57	
Unexpended balance	1,244.15	
		$11,469.72
Appropriation for personal services of veterinarians and agents engaged in the work of extermination of contagious diseases among domestic animals, Chapter 304, Acts of 1936	$75,360.00	
Brought forward from 1935 appropriation	146.00	
Total amount appropriated		$75,506.00
Expended during the year for the following purposes:		
Services of salaried agents	$38,960.00	
Services of per diem agents	32,638.75	
Labor hired	1,948.75	
Total expenditure	$73,547.50	
Unexpended balance	1,958.50	
		$75,506.00
Appropriation for traveling expenses of veterinarians and agents, including the cost of any motor vehicles purchased for their use, Chapter 304, Acts of 1936	$27,000.00	
Brought forward from 1935 Appropriation	54.85	
Transferred from appropriation for small items	11.32	
Total amount appropriated		$27,066.17
Expended during the year for traveling expenses of agents	$19,592.48	
Unexpended balance	7,473.69	
		$27,066.17
Appropriation for reimbursement of owners of horses killed during the present and previous years; travel, when allowed, of inspectors of animals, incidental expenses of killing and burial, quarantine and emergency services and for laboratory and veterinary supplies and equipment, Chapter 304, Acts of 1936	$5,000.00	
Supplemental budget, Chapter 432, Acts of 1936	200.00	
Total amount appropriated		$5,200.00

Expended during the year for the above mentioned purposes	$4,361.93	
Unexpended balance	838.07	
		$5,200.00
Appropriation for reimbursement of owners of tubercular cattle killed, as authorized by Section twelve A of Chapter 129 of the General Laws, as appearing in the Tercentenary Edition thereof, and in accordance with certain provisions of law and agreements made under authority of Section 33 of said Chapter 129 as amended during the present and previous year. Chapter 304, Acts of 1936	$40,000.00	
Supplemental Budget, Chapter 432, Acts of 1936	210.00	
Brought forward from 1935 Appropriation	20,150.82	
Total amount appropriated		$60,360.82
Expended during the year for the following: 1399 head of cattle killed (Chapter 129, General Laws, as amended)	$44,388.11	
Unexpended balance	15,972.71	
		$60,360.82
Reimbursement of towns for inspectors of animals: Appropriation for the reimbursement of certain towns for compensation paid to inspectors of animals, Chapter 304, Acts of 1936		$5,500.00
Expended during the year for reimbursement of certain towns	$5,031.51	
Unexpended balance	468.49	
		$5,500.00

The average amount paid for cattle slaughtered under the provisions of Chapter 129, General Laws, as amended, was $52.87 for registered purebred cattle and $29.27 for grade cattle.

There has been received during the year for Hemorrhagic Septicemia treatments at Brighton, $547.80; and for Cattle Dealers' licenses, in accordance with Chapter 426, Acts of 1935, $1,375.00.

SUMMARY

It is with considerable pleasure that I append the following table showing the diminishing cost to the State of this Division.

Year	*Total Expenditures*	*Amount Paid for Reactors*	*All Other Expenditures*
1933	$626,233.81	$473,987.29	$152,246.52
1934	525,425.40	369,940.71	155,484.69
1935	306,591.87	156,737.23	149,854.64
1936	182,015.98	44,388.11	137,627.87

There can be no fair comparison made of the items headed "All Other Expenditures" for the years 1935 and 1936 with the expenditures of 1933 and 1934 without considering the following facts: in 1932 all step-rate salary increases were discontinued; April 1, 1933, all salaries and the wages of per diem veterinarians were cut; in 1935 full restoration of salary and per diem wage rates and step-rate increases are included in the item $149,854.64. These amounts total $10,110. And so, for a fair comparison, $10,110 should be deducted. The same is true of 1936, but in this case the amount to be deducted is $12,925.

In 1936 the Federal Bureau of Animal Industry removed several of its operatives (who serve at no cost to the Commonwealth) from the State and the slack was taken up by our own State-paid agents. Notwithstanding the lower cost

to the State, it is very gratifying to be able to show in the following tables the increased amount of work accomplished by our field staff in 1935 and 1936 over all preceding years. The first table has to do with bovine tuberculosis tests only; the second table, hog cholera; and these latter treatments in 1936 were greater in number than in any of the preceding years.

	1934	*1935*	*1936*
Cattle tested	270,624	261,204	242,783
Number tested by Salaried Agents	52,680 (19%)	56,873 (22%)	61,894 (25½%)
Number tested by Per Diem Agents	160,929 (59%)	133,796 (51%)	129,543 (53%)
Number tested by Federal Agents	57,015 (21%)	70,535 (27%)	51,346 (21%)

Year	Number of Swine Treatments for: Hog Cholera	Hemorrhagic Septicemia	Total number of Swine Treatments
1929	93,199	23,514	116,713
1930	88,740	23,166	111,906
1931	86,031	31,401	117,432
1932	90,444	20,879	111,323
1933	85,099	16,965	102,064
1934	84,230	14,408	98,638
1935	79,541	24,787	104,328
1936	89,151	30,852	120,003

Our three-bid plan put in operation early in 1935 for the protection of dairymen in the sale of reactors has placed Massachusetts at the top of the forty-eight states of the Union as obtaining the highest average salvage for dairy cattle. The average salvage in 1936 was $35.16; in 1935, $20.62; in 1934, $14.45; and the increased cost of beef explains only a small part of the increased salvage. The adoption of this plan has placed many thousands of dollars in the pockets of dairymen for reactors, which they would not otherwise have received and, incidentally, saved the State many thousands in indemnities.

While the market for milch cows in 1936 was 25% higher than the 1935 prices, our average appraisal for 1936 ($99.20) was only 15% above the average appraisal of 1935 ($84.57). Most pleasing of all is the slight increase in the average indemnity paid for reactors in 1936 ($32.40) as against $29.27 in 1935, an advance of $3.13 or approximately 10%. The credit for this is due to our three-bid system and the able, conscientious work of our appraisers.

Our cattle dealers' license law, enacted in July, 1935, (the first state to pass such a law) continues to be of tremendous service in safeguarding the health of our herds and the pocketbooks of the taxpayers. It also produces a revenue to the State of approximately $1,400 a year.

I might add that in the past two years there has not been any increase in either field or office staff; rather, there has been a decrease of two in the field staff and one in the office staff.

Respectfully submitted,

Charles F. Riordan,
Director